recesses (21); work with a plasma being carried out in a first etching process, and trenches (21') being formed by anisotropic etching in the region of the lateral recesses (21); at least one separating layer (12, 14, 14', 16) being buried between the first silicon layer (15) and a further silicon layer (17, 17'), and the first etching process coming at least almost to a standstill upon reaching the at least one separating layer; and the separating layer (12, 14, 14', 16) subsequently being etched through in an exposed region (23, 23') by a second etching process, and a third etching process then etching the further silicon layer (17, 17'); wherein a $(CF_2)_n$ film (20) being built up on side walls of the trenches (21') at least one of in the course of the first etching process, prior to the third etching process and during the third etching process; wherein the first and second separating-layer sections (12, 16) are deposited in such manner that the conducting layer (13) is completely enclosed.

63. (Amended) A method for etching a silicon layered body, which has a first silicon layer (15) that is provided with an etching mask (10) for defining lateral recesses (21); work with a plasma being carried out in a first etching process, and trenches (21') being formed by anisotropic etching in the region of the lateral recesses (21); at least one separating layer (12, 14, 14', 16) being buried between the first silicon layer (15) and a further silicon layer (17, 17'), and the first etching process coming at least almost to a standstill upon reaching the at least one separating layer; and the separating layer (12, 14, 14', 16) subsequently being etched through in an exposed region (23, 23') by a second etching process, and a third etching process then etching the further silicon layer (17, 17'); wherein a $(CF_2)_n$ film (20) being built up on side walls of the trenches (21') at least one of in the course of the first etching process, prior to the third etching process and during the third etching process; wherein the etching mask (10) and the remaining $(CF_2)_n$ films (20) are finally removed from the etched silicon layered body in an oxygen plasma stripper, using an oxygen ashing process; wherein, after the removal of the remaining $(CF_2)_n$ films, a $(CF_2)_n$ coating is applied to the side walls of the free-standing structure (32), the side walls of the trenches (21'), and all surfaces shadowed by normal ionic incidence, in the course of which electrical contact surfaces, in particular, remain free from a $(CF_2)_n$ coating.